



Chittenden County
I-89 2050 Study

TEUC Meeting

April 27, 2021



Presentation Overview

- Project Overview
- Interchange Concepts
- Interchange Scoring & Recommendations
 - South Burlington City Council & Committees
 - I-89 Technical Committee
- Proposed I-89 Corridor Bundles
- Next Steps



2018 ECOS Plan Metropolitan Transportation Plan (MTP) Priorities

- 70% of Funding goes to System Preservation
- Concentrate growth in our Villages and Downtowns
 - 90% of HH growth in areas planned for growth
- Safety (HCL) Improvements
- TDM Programs
- Transit Service Enhancements
- Increases in walking/biking
- ITS Investments
- Capacity expansion only when needed

The strategies strike a balance between:



Reducing congestion



Fixing high-crash locations



Enhancing walking, biking & transit

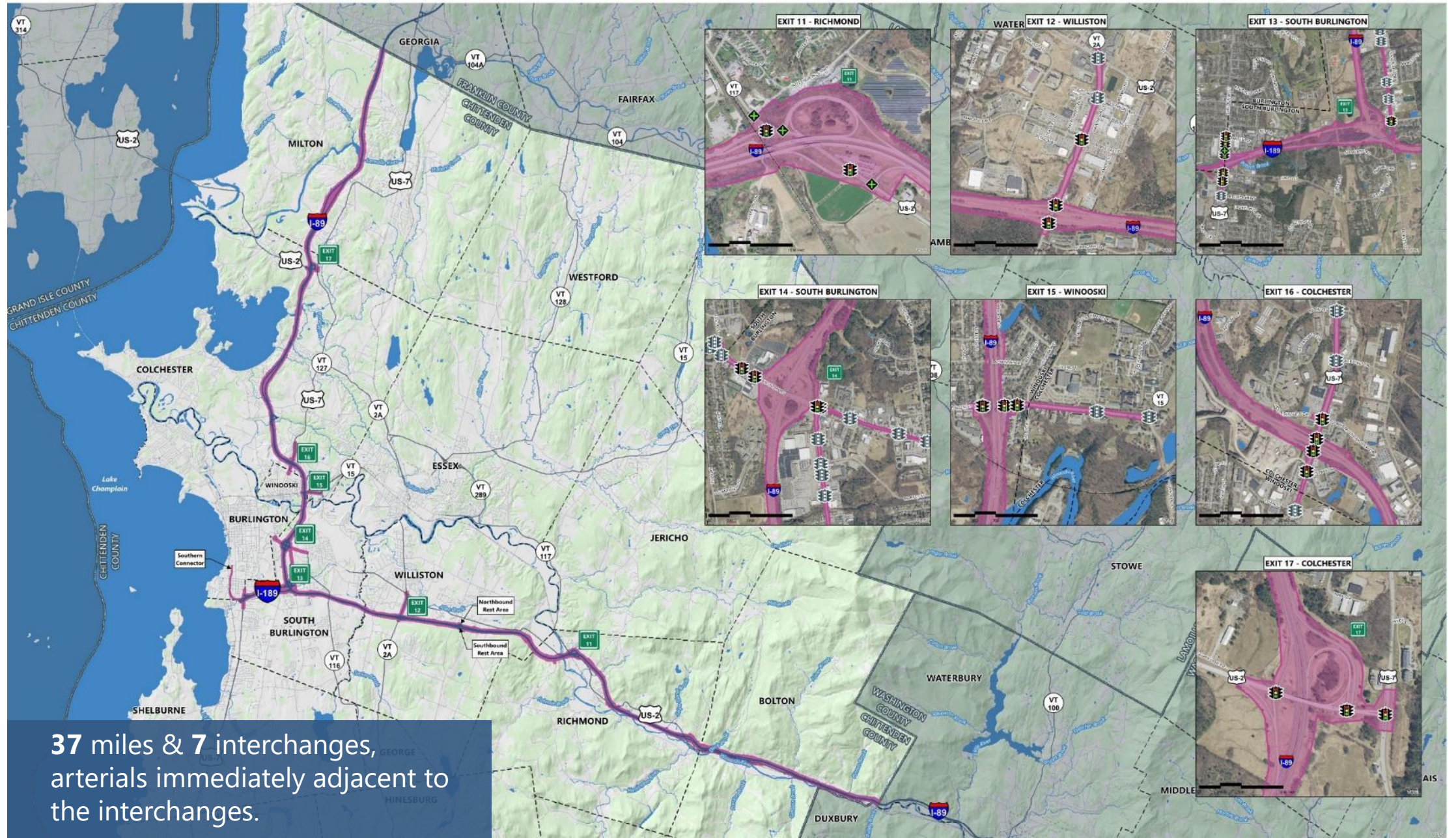


Increasing livability by investing in areas planned for growth

MTP Outcomes – Meeting our transportation /land use/climate/energy goals

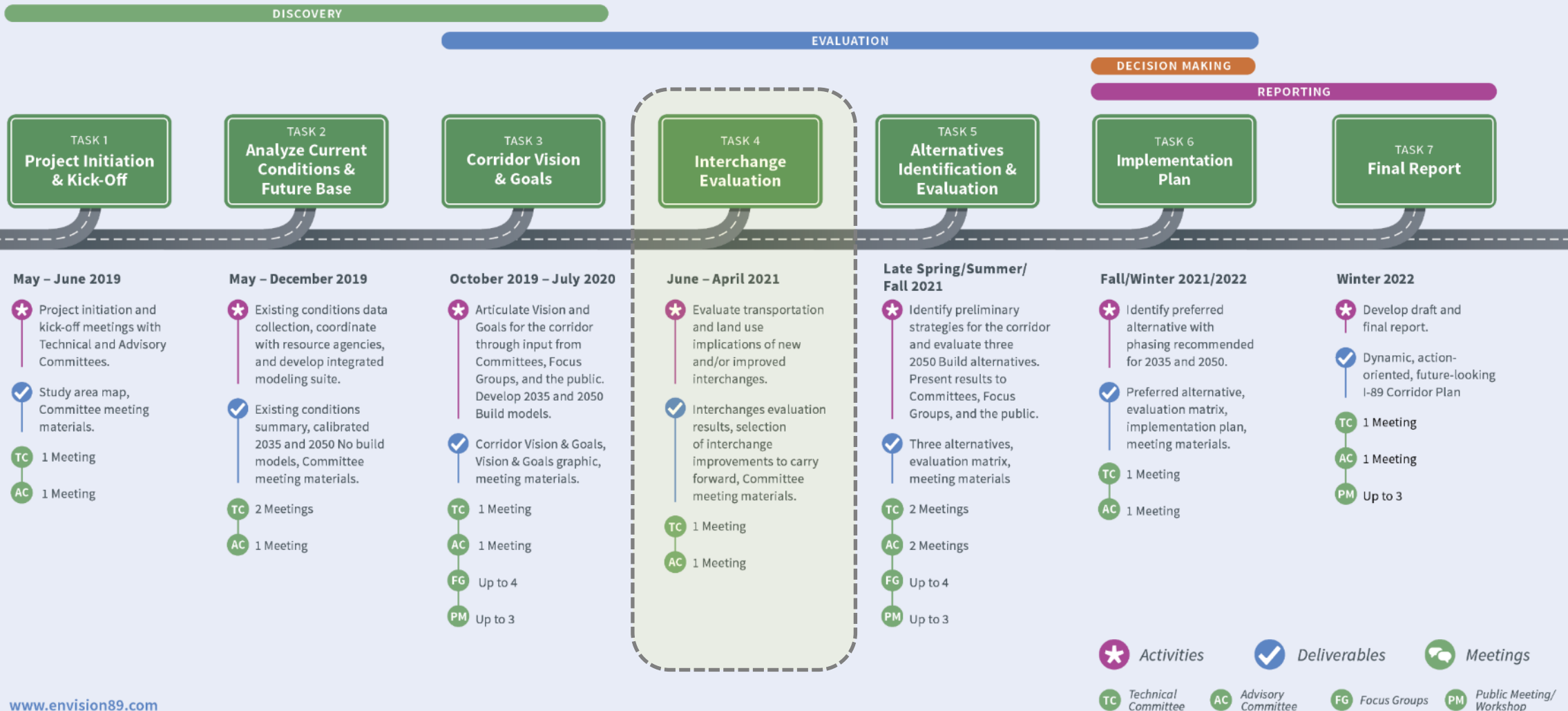
- The significant MTP investment in bike/ped, transit, and park & ride projects, if fully implemented, is estimated to have the following impacts on regional travel through 2050:
 - **2.4%** decrease in Vehicle Miles Traveled (VMT)
 - **4.6%** decrease in Vehicle Hours of Travel (VHT)
 - Increase in Non-Automobile Mode-Share from about **12% to 16%**
 - **90%** fleet electrification to meet the State's energy goal of having 90% of Vermont's energy needs provided by renewable sources by 2050
 - **77%** Reduction in Fuel Consumption compared to 2015

Project Study Area



Chittenden County I-89 2050 Study Project Overview

Our schedule for successfully moving from project kick-off through stakeholder engagement and technical evaluations to develop a comprehensive, forward-looking plan for the I-89 corridor.



Current I-89 Vision & Goals



The 2050 Vision for the I-89 Corridor through Chittenden County is an interstate system (mainline and interchanges) that is safe, resilient, and provides for reliable and efficient movement of people and goods in support of state, regional, and municipal plans and goals.

- **Safety:** Enhance safety along the I-89 Study Corridor and Adjacent interchanges for all users.
- **Livable, Sustainable and Healthy Communities:** Promote compact growth that supports livable, affordable, vibrant, and healthy communities.
- **Mobility & Efficiency:** Improve the efficiency and reliability of the I-89 Corridor and Adjacent Interchanges for all users.
- **Environmental Stewardship & Resilience:** Establish a resilient I-89 Corridor that minimizes environmental impacts associated with the transportation system.
- **Economic Access & Vitality:** Improve economic access and vitality in Chittenden County.
- **System Preservation:** Preserve and improve the condition and performance of the I-89 Corridor

There is significant uncertainty about long-lasting changes on where people will live and how they will travel in the future due to the COVID-19 pandemic, technology, demographics, and other dynamics. We recognize that the I-89 Vision, Goals, Objectives and implementation actions that will follow will need to be monitored and reassessed periodically to ensure that they address the evolving situation.

Two Rounds of Interchange Evaluation

First Round of Interchanges Evaluated

1. Exit 10A – Bolton
2. Exit 12B – South Burlington
3. Exit 13 Full Interchange – South Burlington
4. Exit 13 U-Turn – South Burlington
5. Exit 13 Hybrid – South Burlington
6. Exit 14N – South Burlington
7. Exit 15 Full Interchange – Winooski
8. Exit 17N - Milton



Second Round of Interchanges Evaluated

- ❑ Exit 12B – South Burlington
- ❑ Exit 13 Hybrid – South Burlington
- ❑ Exit 13 SPDI – South Burlington
- ❑ Exit 14 Enhanced Cloverleaf – South Burlington
- ❑ Exit 14 DDI – South Burlington

Process after this study

There are likely to be three kinds of recommendations coming out of this study. Each will have a different implementation process. All projects must be included in CCRPC's MTP and TIP if federal funding is required.

- Minor capital investments (shared-use paths, sidewalks, crosswalks, park and ride lots, technology, signage, lane or ramp changes, etc.) – These will follow the normal capital budgeting and implementation process of the responsible agency (VTrans or municipality).
- Operational investments (transit services, transportation demand management programs, etc.) – These will follow the normal operating budget process of the responsible agency (VTrans, GMT, or municipality).
- Major capital investments (Interchange or I-89 projects) – These will have to go through a NEPA process and it may require an Environmental Impact Statement (EIS).

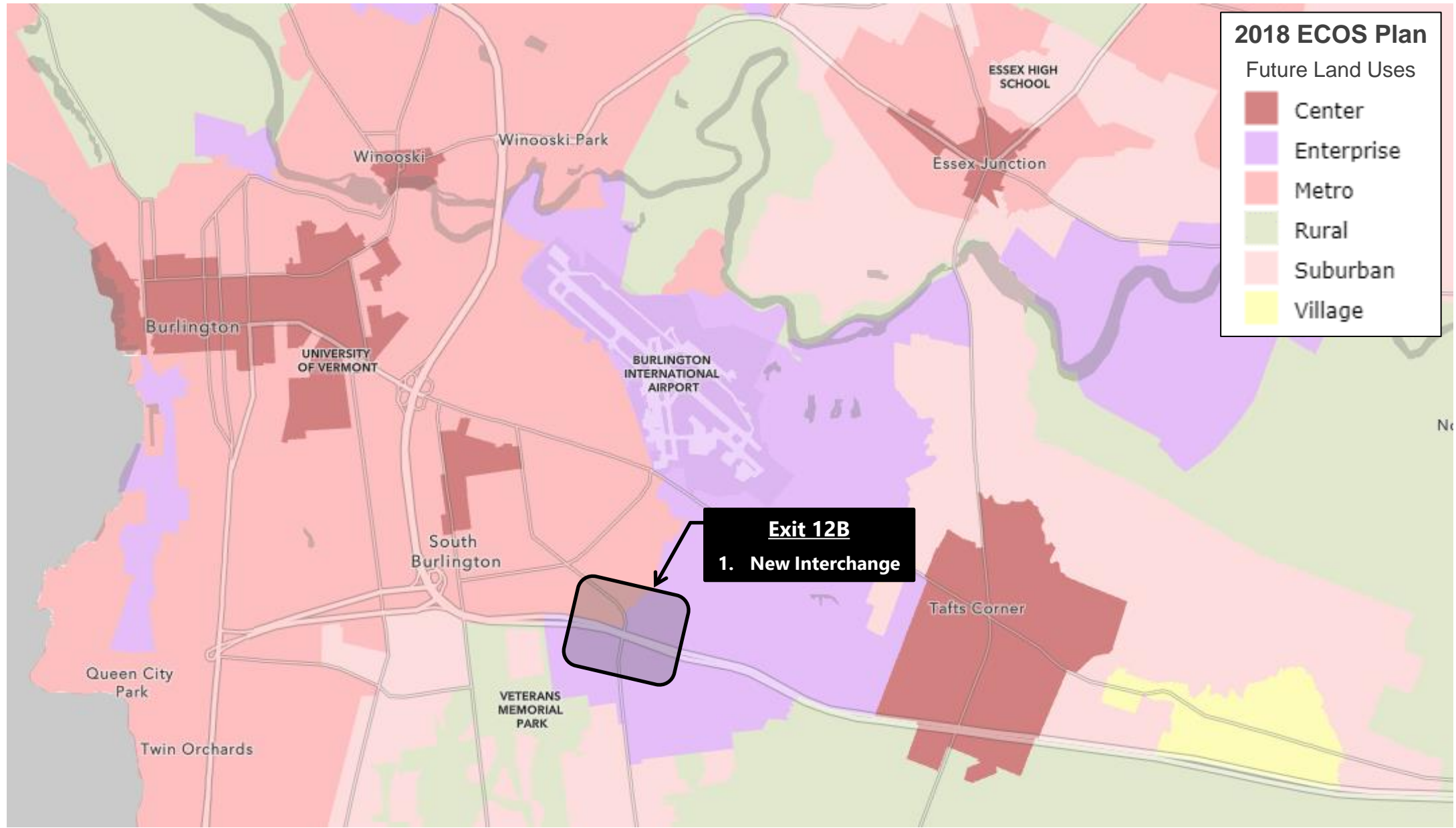
The timing of the different types of investments will be included in Task 6 – Implementation Plan and include monitoring of conditions and triggers (what circumstances will trigger the need for improvements).

Interchange Concept Plans



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I-89 2050 Study

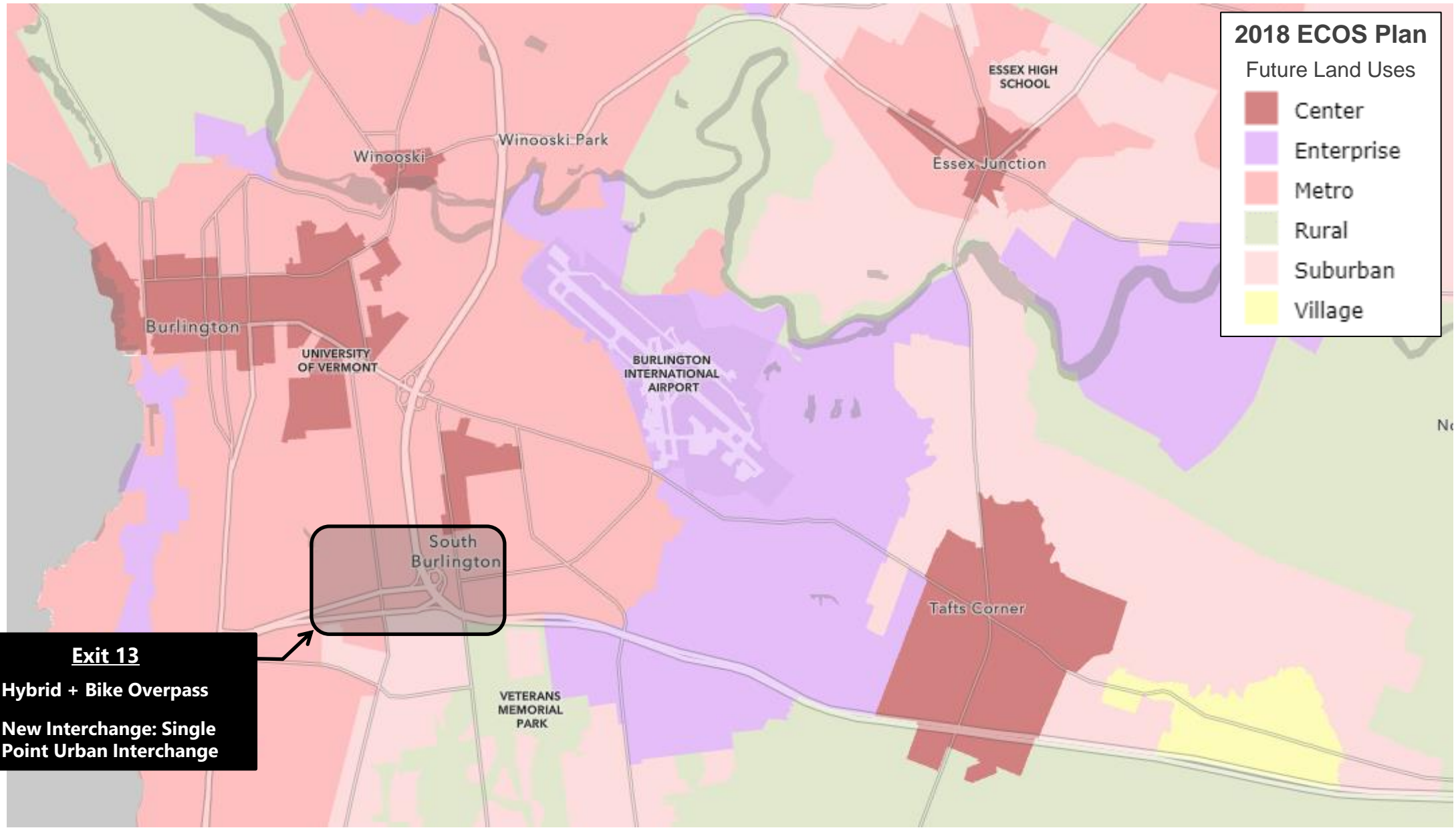
Second Round of Interchange Evaluation: Exit 12B



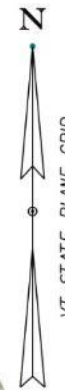
Exit 12B



Interchange Evaluation: Exit 13

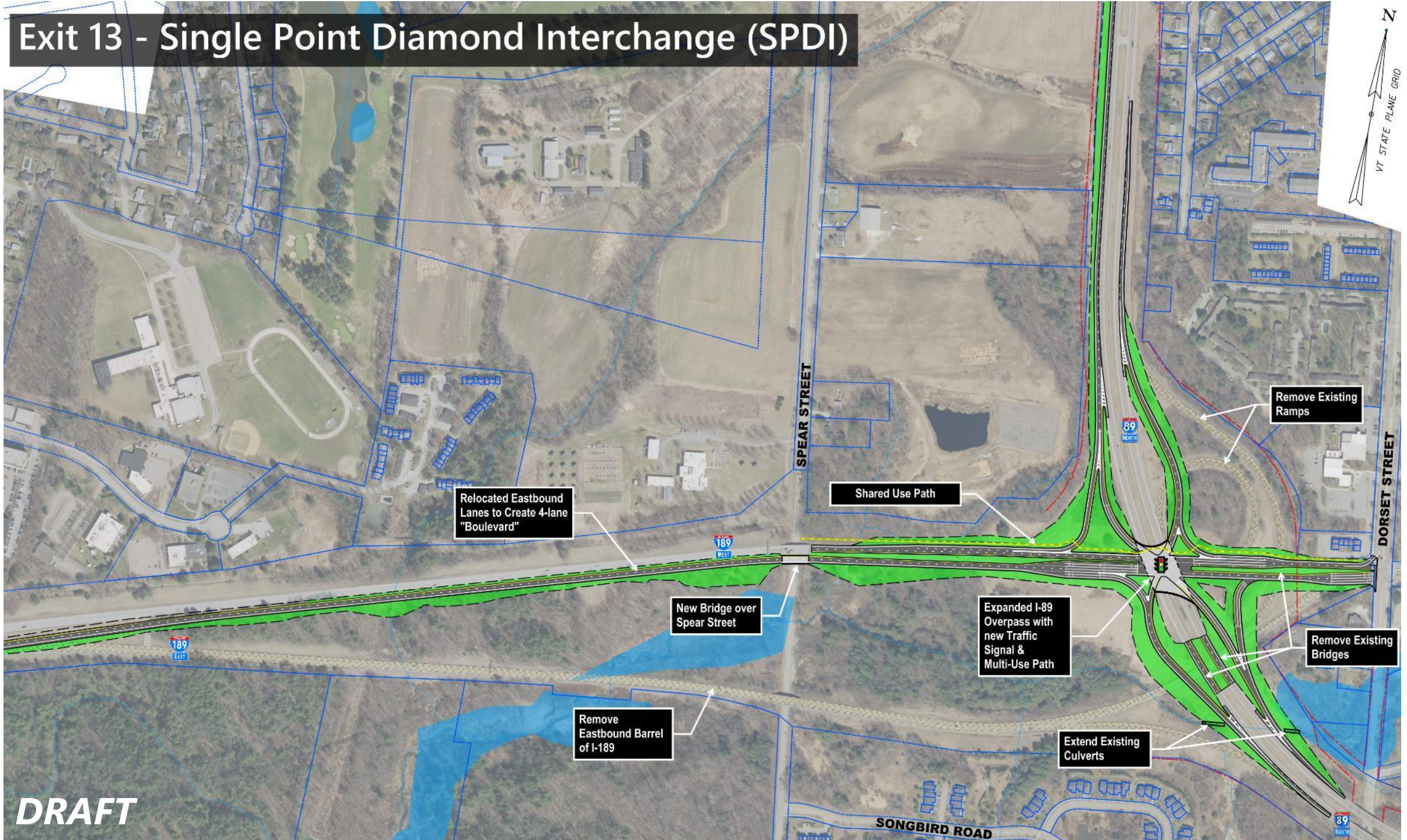


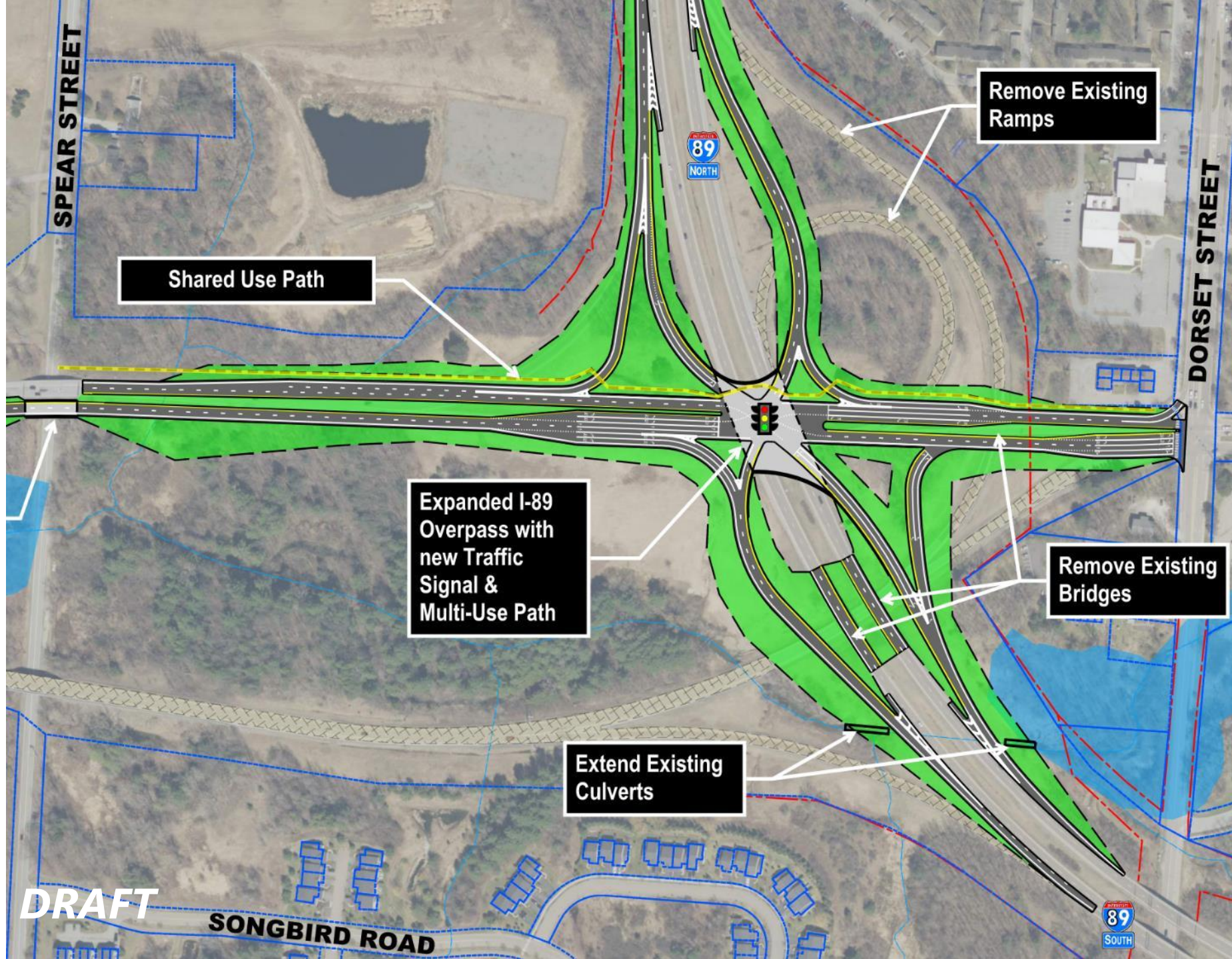
Exit 13 - Hybrid



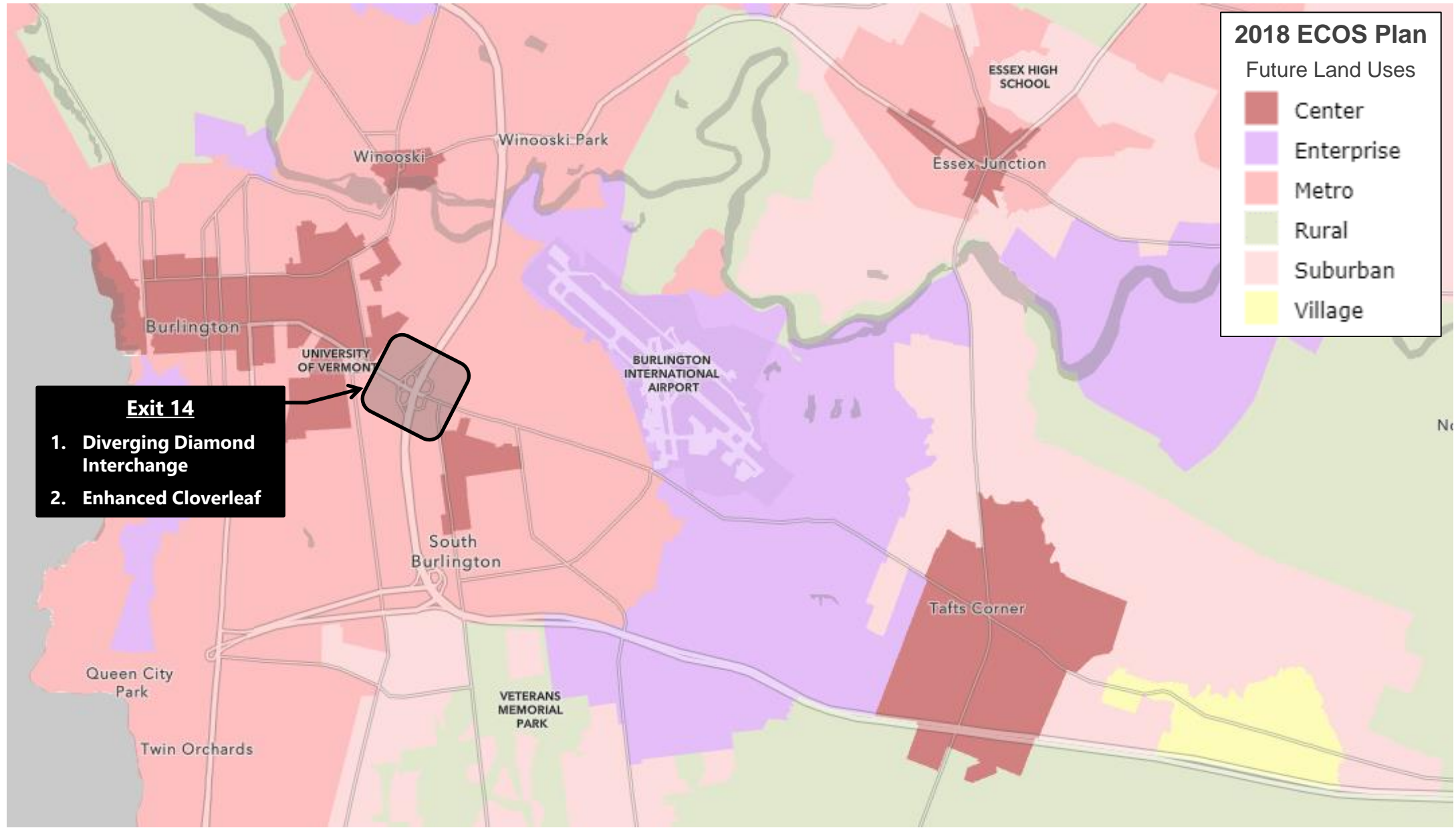
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Exit 13 - Single Point Diamond Interchange (SPDI)

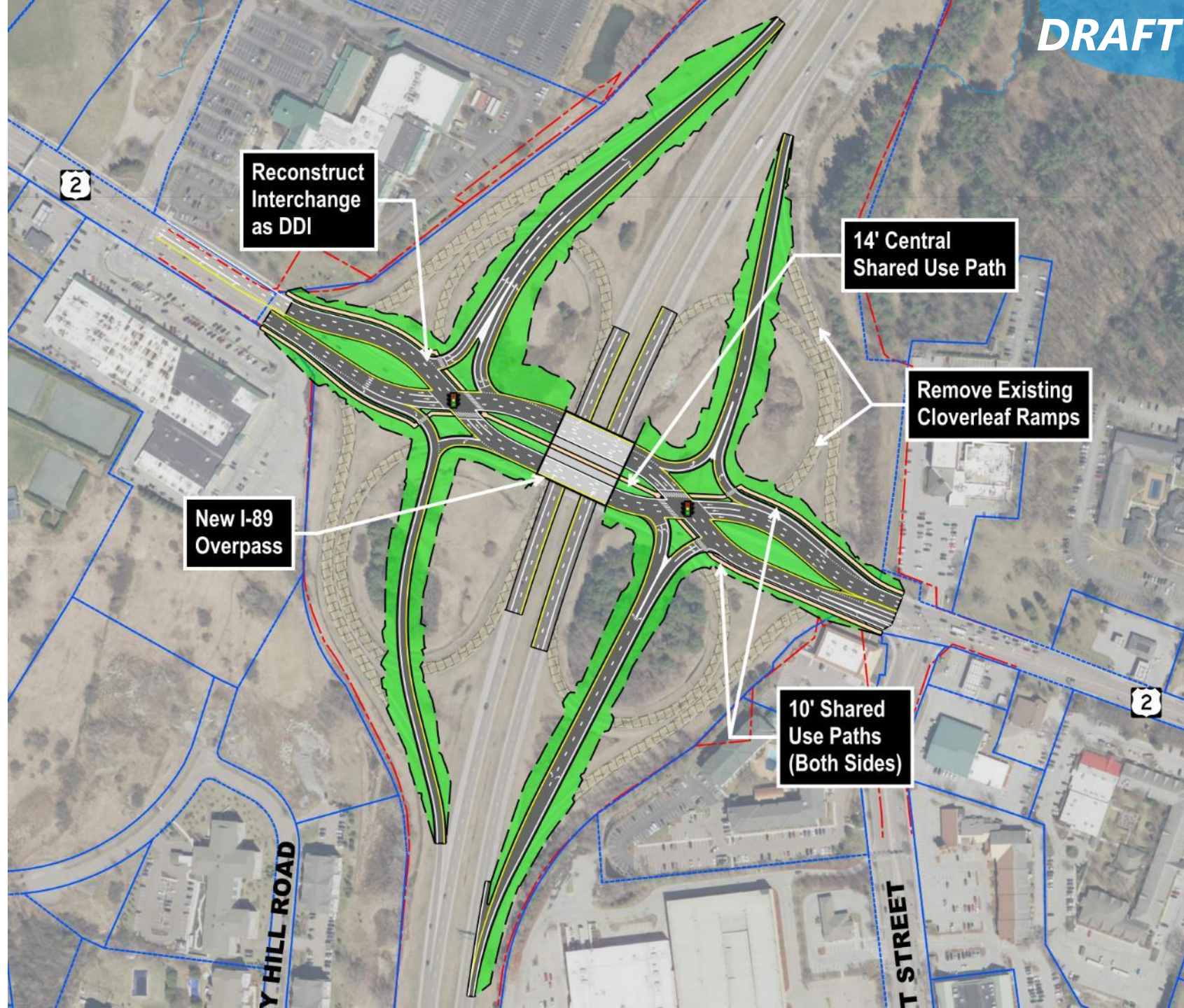




Interchange Evaluation: Exit 14



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2

10' Shared
Use Paths
(Both Sides)

Reduce Radii at All
Ramps to Slow
Speeds & Enhance
Bike/Ped Safety

New I-89
Overpass

Second Northbound
On-Ramp Lane

New
Collector/Distributor
Lanes (NB & SB)

HILL STREET

STREET



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Interchange Evaluation

Second Round Interchange Evaluation Metrics – 1 of 2

SAFETY GOAL: Enhance safety along the I-89 Study Corridor and Adjacent Interchanges for all users

- Ramp Spacing
- Safety Impact
- Bike/Ped Safety

LIVABLE, SUSTAINABLE, & HEALTHY COMMUNITIES GOAL: Promote compact growth that supports livable, affordable, vibrant, and healthy communities.

- Consistent with Regional Plan
- ROW Impacts
- Environmental Justice / Underserved Populations
- How each Interchange Supports or Detracts from City Center

MOBILITY & EFFICIENCY GOAL: Improve the efficiency and reliability of the I-89 Corridor and Adjacent Interchanges for all users.

- Interchange Trips, VMT & VHT
- I-89 Corridor V/C
- Average Delay
- Bike/Ped Connectivity
- Effect of interchanges on volumes on selected roads
- Impacts to Exit 12 traffic

Second Round Interchange Evaluation Metrics – 2 of 2

ENVIRONMENTAL STEWARDSHIP GOAL: *Establish a resilient I-89 Corridor that minimizes environmental impacts associated with the transportation system.*

- Wetland Impacts
- River Corridors
- Natural Habitats
- Fuel Consumption
- Change in Impervious Area
- Noise Impacts (High level)

ECONOMIC ACCESS GOAL: *Improve economic access and vitality in Chittenden County.*

- Connectivity to Areas Planned for Growth
- Job Access
- Impacts to Employment Opportunities
- Access to the Airport

SYSTEM PRESERVATION GOAL: *Preserve and improve the condition and performance of the I-89 corridor.*

- Asset Maintenance Cost
- Construction Cost
- Maintenance & Construction Cost

Interchange Evaluation Matrix Overview



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I-89 2050 Study

Exits 12B & 13

■ Evaluation Matrix Results

Goal	Exit 12B	Exit 13	Exit 13
	<i>New Interchange</i>	<i>Hybrid + Bike Overpass</i>	<i>SPDI</i>
Safety	16	16	20
Livable, Sustainable, and Healthy Communities	13	16	13
Mobility & Efficiency	14	12	16
Environmental Stewardship	6	11	17
Economic Access	21	10	10
System Preservation	4	17	13
TOTAL SCORE	74	83	89

Green shading indicates highest scoring alternative by goal

■ Alternative Comparisons

	Strengths	Weaknesses
Exit 12B	<ul style="list-style-type: none"> + Largest % reduction in traffic at Exit 12 (-14%) + Largest % reduction in traffic on Williston Road east of Exit 14 (-15%) + Potential for more, higher paying jobs resulting from interchange 	<ul style="list-style-type: none"> – Largest ROW impact (4 acres) – Greatest increase in impervious area (3.4 acres) – Largest % increase in traffic on VT 116 south of I-89 (+39%)
Exit 13 Hybrid	<ul style="list-style-type: none"> + Lowest overall construction & preservation cost (\$106M) + Provides new bike/ped connectivity across I-89 	<ul style="list-style-type: none"> – Left exit for I-189 U-turn movement not standard design
Exit 13 Single Point Diamond Interchange	<ul style="list-style-type: none"> + Largest % reduction in traffic at Exit 14 (-13%) + Largest % reduction in traffic on Dorset Street at UMall (-17%) + Provides new bike/ped connectivity across I-89 	<ul style="list-style-type: none"> – Largest % increase in traffic on Dorset Street south of I-89 (+33%)

Exit 14

■ Evaluation Matrix Results

Goal	Exit 14 <i>Enhanced Cloverleaf</i>	Exit 14 <i>DDI</i>
Safety	8	6
Livable, Sustainable, and Healthy Communities	6	11
Mobility & Efficiency	7	4
Environmental Stewardship	2	6
Economic Access	0	2
System Preservation	7	4
TOTAL SCORE	30	33

■ Alternative Comparisons

	Strengths	Weaknesses
Exit 14 Enhanced Cloverleaf	<ul style="list-style-type: none"> + Higher % decrease in anticipated crashes (-5%) + Collector/Distributor lanes minimize weave/merge conflicts on I-89 + Lowest overall construction & preservation cost (\$119M) 	<ul style="list-style-type: none"> – Much higher increase in impervious area (+4.8 acres) – Potential bike/ped conflicts at uncontrolled ramp entrances
Exit 14 Diverging Diamond Interchange	<ul style="list-style-type: none"> + Provides fully signalized path for pedestrians & cyclists to cross I-89 and Williston Road + Results in net reduction in impervious area (-0.5 acres) 	<ul style="list-style-type: none"> – Lower overall capacity than Existing Conditions and Enhanced Cloverleaf – Results in 3-4% increase in traffic on parallel routes (Winooski Main Street, Limekiln Road)



Interchange Recommendations to Date



Chittenden County
I-89 2050 Study

Interchange Recommendations to Advance for further Evaluation

- South Burlington City Council (April 19th): Exit 12B
- South Burlington Committees:
 - Planning Commission: Exit 13 SPDI
 - South Burlington Energy Committee: Reconstruct Exit 13
 - Bicycle and Pedestrian Committee: Exit 13 SPDI & Exit 14 DDI
 - Economic Development Committee: Exit 12B
- I-89 Technical Committee (VTrans & Municipalities): Exit 13 SPDI



Moving Forward Proposal & Next Steps



Chittenden County
I-89 2050 Study

Proposed I-89 Corridor Bundles for I-89 Advisory Committee's Consideration

Investments for 2050 Conditions	Bundle 1	Bundle 2	Bundle 3
Transit (new service, increased frequency, etc.)	✓	✓	✓
Biking (lanes, paths, signals, etc.)	✓	✓	✓
Walking (sidewalks, paths, crosswalks, signals, etc.)	✓	✓	✓
Transportation Demand Management (park and ride lots, ridesharing, telecommuting, TMA, etc.)	✓	✓	✓
Intelligent Transportation Systems (smart signals, etc.)	✓	✓	✓
Exit 14 DDI	✓	✓	✓
Exit 13 SPD I		✓	
Exit 12B			✓

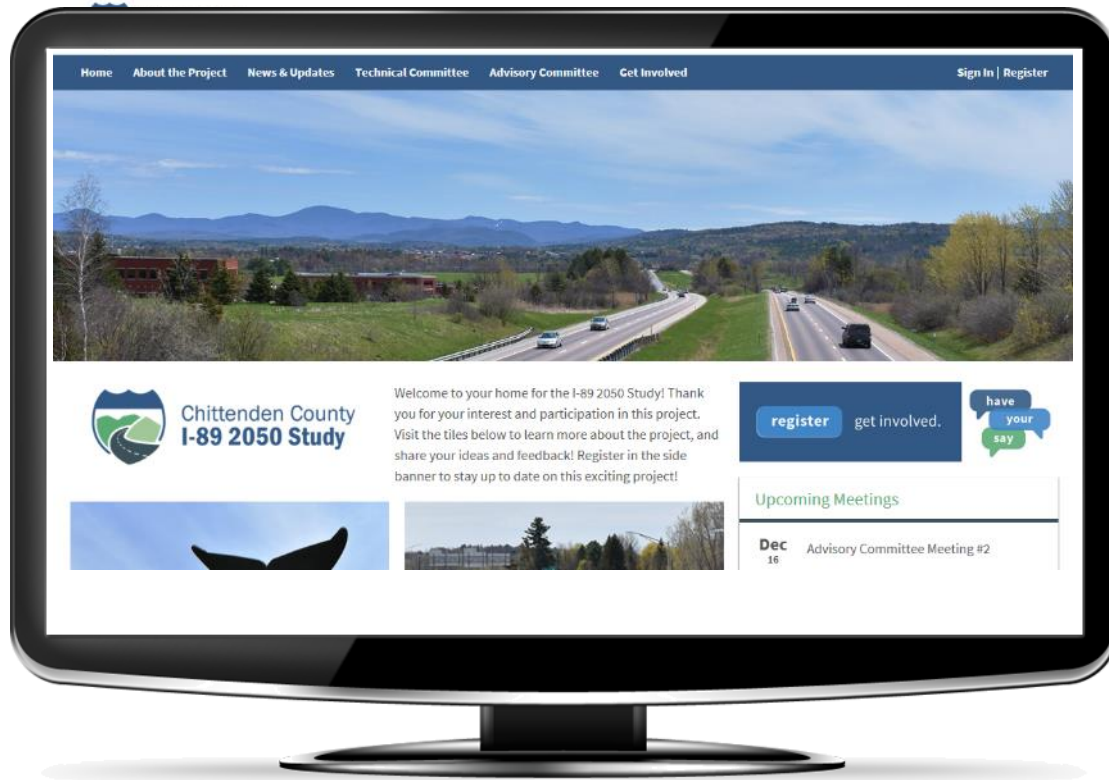
Next Steps

- Public Meeting: **April 29**
- Advisory Committee Meeting #5: **May 19**
 - Decision on Interchanges and Bundles
- Corridor Evaluation & Public/Stakeholder Involvement: **Summer/Fall 2021**
 - Includes identifying the need for I-89 widening
- Draft & Final Report: **Winter 2021/2022**



Thank you!

Stay Connected!



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